

**Abstract of the Disclosure**

A system for converting a single input beam of light into a plurality of spatially or angularly shifted output beams, each having a different wavelength supplies the single input beam of light to the first of a plurality of cascaded acousto-optical and/or stimulated Brillouin scattering (SBS) wavelength-shifting devices in optical communication with each other. This causes the first wavelength-shifting device to produce a first output beam having a wavelength shifted from that of the input beam. The output beam from each of the cascaded wavelength-shifting devices is supplied to the next such device to cause each successive wavelength-shifting device to produce an output beam having a wavelength shifted from the wavelength of the input beam to that device. Thus, variations in the wavelength of the input beam or in temperature or strain of the wavelength-shifting devices will cause the wavelengths of the output beams to uniformly vary, thus maintaining constant intra-wavelength spacings among the output beams.